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Abstract

SOLUTION OF THE PROBLEM OF SANITARY PROTECTION OF THE ENVIRONMENT FROM RADIOACTIVE CONTAMINATION IN THE SOVIET UNION

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The problem of sanitary protection of reserviors, underground waters and the atmosphere and soil from contamination with radioactive waste has assumed in the Soviet Union a tremendous nationwide importance. It is aimed at ensuring radiation safety to the population.

The sanitary requirements presented to the distribution of enterprises for the extraction, processing and use of nuclear fuel, the conditions for the discharge of radioactive waste into the atmosphere and the permissible doses of radioactive substances in the air, reservoirs and subterranean sources of water supply are governed by unified sanitary regulations published by the sanitary inspection bodies of the Ministry of Health Protection which have the force of law.

The principle underlying this problem is to prevent the contamination of the environment with radioactive substances and to keep the population out of contact with them. This is achieved by employing a differentiated approach to the utilisation of various methods depending on the type of enterprise and the nature of radioactive waste. Among the principal ones are an all-round reduction in the amount of liquid and gaseous wastes to be removed, their localisation at the place of production, measures for their effective dispersement and deconcentration and the arrangement of sanitary protection belts which isolate the population from them.

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Adequate sanitary conditions have been created by means of these methods (changed production processes, closed circulation cycles for liquid waste, decontamination at uranium mines, plants for processing uranium ore, etc).

The problem of sanitary protection of the environment in the vicinity of operating atomic reactors and atomic electric power plants is also being successfully solved along various lines.

Reliable burial of waste is of especial interest from the viewpoint of hygiene. Although these measures involve a certain capital outlay they give a good sanitary effect which is of decisive importance in this problem.

As a result, a contamination hazard has been considerably reduced as regards subterranean water supply sources and reservoirs and the atmospheric air near the ground.

The tasks that face specialists in this sphere are to improve still more the methods called upon to ensure radiation safety for the population.